

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: ??

Region: Asheville Regional Office
County: McDowell
NC Facility ID: 5600164
Inspector's Name: Patrick Ballard
Date of Last Inspection: 01/20/2017
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): Baxter Healthcare Corporation</p> <p>Facility Address: Baxter Healthcare Corporation 65 Pitts Station Road Marion, NC 28752</p> <p>SIC: 4961 / Steam Supply NAICS: 22133 / Steam and Air-Conditioning Supply</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>				<p align="center">Permit Applicability (this application only)</p> <p>SIP: 2D .0402, .0503, .0504, .0516, .0521, .0524 and .0614. 2Q .0317 (MACT and 112(r)) and .0711. Remove 15A NCAC 02D .0958 NSPS: Subparts Dc and IIII NESHAP: Subparts ZZZZ and JJJJJ PSD: N/A PSD Avoidance: Yes. PM, SO₂, NO_x and CO NC Toxics: N/A 112(r): N/A Other:</p>																																																			
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<p>Review Engineer: Brian Bland</p> <p>Review Engineer's Signature: Date: ??, 2017</p>				<p align="center">Comments / Recommendations:</p> <p>Issue 05600/T21 Permit Issue Date: ?? Permit Expiration Date: ??, 2022</p>																																																			

I. Purpose of Application/Facility Description

Baxter Healthcare Corporation (Baxter), located in Marion, McDowell County, manufactures sterile intra-venous (IV) solutions for use in the medical industry. The facility stamps bags from PVC sheets, labels the bags for content, extrudes the fill tube (from PVC), extrudes an overwrap (from HDPE), and fills the bags with several different types of IV (salt/sugar/medication/water) solutions. Steam for the facility is supplied primarily by a wood-fired boiler, formerly owned by Suez Energy. In addition to wood, the boiler is permitted to fire on-site generated used oil. The facility operates 24 hours a day, 7 days a week, and employs approximately 2200 people.

Application No. 5600164.15B, received on December 14, 2015, was submitted for a renewal of an existing Title V permit. The existing Title V permit was scheduled to expire on September 30, 2016. Because the renewal application was received at least nine months prior to the expiration date, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

II. Application Chronology

November 19, 2013	502(b)(10) Notification (Application No. 5600164.13C) for replacement of multicloner (ID No. MCCD-1) with multicloner (ID No. MCCD-2) received.
October 31, 2014	502(b)(10) Notification (Application No. 5600164.14C) for replacement of PVC extruder die cleaning oven (ID No. ES-1724) received.
December 10, 2014	Air Permit No. 05600T16, for the installation of natural gas-fired (with No. 2 fuel oil as a back-up fuel) boilers (ID Nos. B-10 and B-11) to replace boilers ID Nos. B-4 and B-5, was issued pursuant to Application No. 5600164.14B and included the following requirement: <i>The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1</i>
September 2, 2015	A permit application ("second step" of two-step 15A NCAC 02Q .0501(c)(2) significant modification) for the changes made in Application No. 5600164.14B was received by DAQ and processed as Application No. 5600164.15A. Additionally, Baxter requested that the avoidance condition for Area Source MACT JJJJJ, added to the permit for boilers ID Nos. B-10 and B-11 as requested by the Permittee, be removed from the air permit.
December 14, 2015	Application No. 5600164.15B received for renewal of Air Permit 05600T16.
March 21, 2016	Application forms received for replacement of multicloner (ID No. MCCD-1) 502(b)(10) Notification received.
April 25, 2016	Application forms received for PVC extruder die cleaning oven (ID No. ES-1724) 502(b)(10) Notification received.
June 3, 2016	Baxter requests that the removal of Boiler ID No. B-Temp-1, originally requested as part of Application No. 5600164.15A, be processed as part of the renewal Application No. 5600164.15B in order to expedite the removal of the MACT JJJJJ Avoidance Condition.

June 29, 2016	Completed Minor Modification Application (App. No. 5600164.16A) received for the purpose of adding a diesel-fired emergency generator (ID No. EP-13).
August 18, 2016	Pursuant to Application No. 5600164.15A, Air Permit No. 05600T17 was issued.
September 14, 2016	Pursuant to Application No. 5600164.16A, Air Permit No. 05600T18 was issued.
December 12, 2016	Applicability Determination No. 2964 received. Baxter wishes to add a new laser engraving process to the insignificant activities list, as well as move the PVC extruder die cleaning oven to the insignificant activities list.
December 14, 2016	Applicability Determination No. 2964 issued. Based on information provided by Baxter, both sources (ID Nos. I-Laser Engravers and I-1724) are exempt from permit pursuant to 15A NCAC 02Q .0503(8).
February 14, 2017	Pursuant to Administrative Amendment (Application No. 5600164.17A), Air Permit No. 05600T19 was issued for the purpose of removing the MACT JJJJJ energy assessment requirement from the boilers categorized as new under the MACT.
May 24, 2017	Application No. 5600164.17B received for a state only modification of Air Permit 05600T19.
May 26, 2017	Pursuant to Application No. 5600164.17B, Air Permit No. 05600T20 was issued.
May 31, 2017	Baxter requests that Boiler ID No. B-Temp-1 not be removed from the air permit. As previously detailed, the removal of Boiler ID No. B-Temp-1 was originally requested as part of Application No. 5600164.15A, and later requested to be processed as part of the renewal Application No. 5600164.15B.
August 2, 2017	Draft permit and review document forwarded to Patrick Ballard of Asheville Regional Office (ARO) and Samir Parekh (SSCB) for comments.
August 2, 2017	Draft permit forwarded to Corey Carpentier of Baxter for comments.
August 3, 2017	Comments on draft permit and review document received from ARO.
August 8, 2017	Comments on draft permit received from Corey Carpentier of Baxter.

III. Changes to Existing Permit

The following changes were made to the Baxter Healthcare Corporation Facility Air Permit No. 05600T20:

Page(s)	Section	Description of Change(s)
Attachment	Insignificant Activities	<ul style="list-style-type: none"> Add nine laser engravers (ID No. I-Laser Engravers) Add existing, but previously permitted, PVC Extruder Die Cleaning Oven (ID No. I-1724) with associated Water Spray Trap and Condenser (CD-J17452)

Page(s)	Section	Description of Change(s)
All	All	<ul style="list-style-type: none"> Update dates and permit revision number Correct minor grammatical errors Update wording and formatting to current DAQ standards (this is most noticeable in NSPS and MACT conditions)
3	Permitted Items	<ul style="list-style-type: none"> Change description and ID No. of multicyclone to reflect the installation of a new multicyclone Update ID No. ES-6 equipment description to reflect the use of cumene as well as cyclohexanone Change Boiler ID No. B-Temp-1 description to reflect it is a temporary boiler Remove PVC Extruder Die Cleaning Oven (ID No. ES-1724) with associated Water Spray Trap and Condenser (CD-J17452) as it has been moved to the insignificant activities list
4	2.1 A	<ul style="list-style-type: none"> Change ID No. of multicyclone to reflect the installation of a new multicyclone
4	2.1 A. 1. c	<ul style="list-style-type: none"> Set new deadline for required 15A NCAC 02D .0504 particulate matter compliance testing in wood-fired boiler (ID No. WBES-1) Clarify that if the test results show that the emission rate is more than 80 percent of the allowable limit, then testing shall be done annually instead of every 5 years
7	2.1 A. 5	<ul style="list-style-type: none"> Move NESHAP JJJJJ condition here from Section 2.2
10	2.1 B	<ul style="list-style-type: none"> Rework section to reflect that facility only plans on having this permitted source on site temporarily
11	2.1 B. 4	<ul style="list-style-type: none"> Update NSPS Subpart Dc condition to reflect current DAQ language
13	2.1 B. 6	<ul style="list-style-type: none"> Add NESHAP JJJJJ condition for Boiler ID No. B-Temp-1
N/A	2.1 D (revision T20)	<ul style="list-style-type: none"> Remove this section (ID Nos. ES-6 and ES-7) as the only applicable regulation was 15A NCAC 02D .0958 15A NCAC 02D .0958 is no longer applicable to this facility, as it no longer applies to facilities in this county as of November 1, 2016
N/A	2.1 E (revision T20)	<ul style="list-style-type: none"> Remove PVC Extruder Die Cleaning Oven (ID No. ES-1724) with associated Water Spray Trap and Condenser (CD-J17452) as it has been moved to the insignificant activities list
22	2.1 D. 5. d. and e (this section was previously 2.1 F)	<ul style="list-style-type: none"> Add GACT JJJJJ exemption from PM emission limit associated with the burning of ULS fuel that is effective in 2019
31	2.2 A. 3	<ul style="list-style-type: none"> Change ID No. of multicyclone to reflect the installation of a new multicyclone
N/A	2.2 B (revision T20)	<ul style="list-style-type: none"> Remove Boiler ID No. B-Temp-1 from condition Move remainder of condition to Section 2.1 A. 5
34	Section 3	<ul style="list-style-type: none"> Update General Conditions to version 5.1

IV. Compliance History

Mr. Patrick Ballard from the ARO inspected the facility on January 20, 2017. Based on his observations during the inspection, Baxter “appeared to be in compliance with the applicable air quality regulations and Air Permit No. 05600T18.”

V. Regulatory Review

The facility is subject to the following regulations:

15A NCAC 02D .0402, Sulfur Oxides
15A NCAC 02D .0503, Particulates from Fuel Burning Indirect Heat Exchangers
15A NCAC 02D .0504, Particulates from Wood Burning Indirect Heat Exchangers
15A NCAC 02D .0516, Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 02D .0521, Control of Visible Emissions
15A NCAC 02D .0524, New Source Performance Standards (NSPS), 40 CFR 60, Subparts Dc and IIII
15A NCAC 02D .0614, Compliance Assurance Monitoring
15A NCAC 02D .1100, Toxic Air Pollutant Emissions Limitation Requirement
15A NCAC 02D .1111, NESHAP, 40 CFR 63 Subparts Subpart ZZZZ, JJJJJ
15A NCAC 02Q .0317, Avoidance of 15A NCAC 02D .0530 PSD (PM, SO₂, NO_x and CO)
15A NCAC 02Q .0317, Avoidance of 15A NCAC 02D .1111 and Section 112(r)
15A NCAC 02Q .0711, Emission Rates Requiring a Permit

15A NCAC 02D .0402 - Sulfur Oxides

Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. This facility is one of several that did not demonstrate that 2.3 pounds SO₂ per million Btu heat input was an adequate standard when this standard replaced the existing 1.6 pounds SO₂ per million Btu heat input standard. The appendix to 15A NCAC 02D .0516 (specifically, Appendices 6-7) states that "in no case shall sulfur dioxide emissions from the fuel burning equipment exceed 1.6 pounds per million Btu input." More information regarding this can be found in Air Permit No. 1915R6, the February 4, 1987 Federal Register and documentation for the June 25, 1986 Public Hearing (note that the facility was previously named Travenol Laboratories).

No. 2 fuel oil-fired boiler (ID No. B-Temp-1)

The AP-42 (Table 1.3-1) emission factor for SO₂ emissions from distillate fuel oil combustion in boilers less than 100 million Btu/hr is: 142(S) lb/1000 gallons, where S = sulfur content. Assuming a heat content for No. 2 fuel oil of 140,000 Btu per gallon, and based on the following calculations, compliance with NSPS Dc ensures compliance with 15A NCAC 02D .0402 limit of 1.6 pounds SO₂ per million Btu heat input.

$$(142 (0.5) \text{ lb}/1000 \text{ gal}) / (140,000 \text{ Btu}/\text{gal}) * 1,000,000 \text{ Btu}/\text{million Btu} = 0.51 \text{ lb}/\text{million Btu}$$

No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the combustion of No. 2 fuel oil in this emissions source.

Two natural gas/No. 2 fuel oil-fired boilers (ID Nos. B-10 and B-11)

As detailed above, these boilers while firing No. 2 fuel oil are expected to comply with this regulation. Natural gas has inherently low sulfur content, so compliance is expected while these boilers are firing natural gas.

No monitoring/recordkeeping/reporting is required for sulfur dioxide emissions from the combustion of natural gas or No. 2 fuel oil in these emissions sources.

Seven No. 2 fuel oil-fired peak shaver generators (ID Nos. EP-1 through EP-7)

No. 2 fuel oil sulfur content is inherently low enough that continued compliance is expected.

No monitoring, recordkeeping, or reporting is required when firing No. 2 fuel oil in these sources.

2220 hp diesel-fired emergency generator (ID No. EP-13)

Diesel fuel sulfur content is inherently low enough that continued compliance is expected.

No monitoring, recordkeeping, or reporting is required when firing diesel fuel in this source.

15A NCAC 02D .0503 "Particulates From Fuel Burning Indirect Heat Exchangers"

This regulation applies to particulate matter (PM) emissions from indirect heat exchangers (note that the PM emissions from electric steam generating units are subject to 15A NCAC 02D .0536).

PM Emissions from each boiler into the atmosphere shall not exceed PM emission rate as derived using 15A NCAC 02D .0503(c).

Accordingly, allowable emissions of PM from natural gas combustion/No. 2 fuel oil in each boiler shall be calculated as follows:

$$E = 1.090 \times Q^{-0.2594} \text{ Where: } E = \text{allowable PM emission rate in lbs/million Btu heat input} \\ Q = \text{maximum heat input rate in million Btu per hour at the facility}$$

For this regulation, maximum heat input rates (less refuse not burned as a fuel and wood) of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted shall be considered as total heat input rate for determining allowable PM limit for each indirect heat exchanger.

As previously calculated, the PM emission limit for each permitted boiler is:

ID Nos. ES-10, ES-11 and B-Temp-1: 0.27 lb PM/million Btu for each boiler.

AP-42 (Table 1.4-2) gives an emissions factor of 7.6 pounds of PM/million cubic feet during natural gas combustion. We can calculate natural gas PM emissions from the boilers as ~0.0075 pounds/million Btu. Therefore, compliance with the PM emission standard of 15A NCAC 02D .0503 is expected while burning natural gas, as the calculated PM emission rate is below the allowable emission rate.

The AP-42 (Table 1.3-1) emission factor for particulates from No. 2 fuel oil combustion is 2 pounds per 1000 gallons. Based on a heat content of No. 2 fuel oil at 140,000 Btu per gallon, particulates from No. 2 fuel oil combustion can be calculated as: $(2 \text{ lb}/1000 \text{ gal}) / (140,000 \text{ Btu}/\text{gal}) * 1,000,000 \text{ Btu}/\text{million Btu} = 0.014 \text{ lb}/\text{million Btu}$

At 0.014 lb/million Btu, potential PM emissions from the boilers while firing No. 2 fuel oil should be well below the emission limit. Compliance with 15A NCAC 02D .0503 is expected.

Because the expected emission PM rate on either permitted fuel is significantly lower than the allowable emission rate, no monitoring/record keeping/reporting will be required for particulate emissions from these boilers due to firing of natural gas or No. 2 fuel oil.

15A NCAC 02D .0504 "Particulates From Woodburning Indirect Heat Exchangers"

This regulation limits particulates from wood fuel combustion based on the following equation:

$$E = 1.1698 * Q^{-0.2230} = 1.1698 (162.9)^{-0.2230} = 0.38 \text{ lbs}/\text{million Btu}$$

Where: E = Allowable particulate emission rate (pounds per million Btu)
Q = Maximum facility wide heat input rate from wood combustion (million Btu/hour)

The existing permit required the Permittee to conduct a one-time test of the boiler at the end of a cleaning cycle when only one settling pond was operating as a worst case scenario and submit test results no later than September 30, 2012. The facility performed the testing on August 14, 2012 and submitted the results in a timely manner. The stack test demonstrated compliance with the emission limitation with total particulate matter (PM) at 0.11 lbs total PM/million Btu of heat input. The renewed permit will require the facility to demonstrate PM compliance by stack testing within 180 days of the effective date of the permit. This revision also clarifies that a test shall be completed for each subsequent 5-year period (no more than 61 months from the previous test). Additionally, if the test results show that the emission rate is more than 80 percent of the allowable PM limit, then the test frequency shall be increased to annually.

To meet the emission limitation, particulate emissions are controlled by one venturi scrubber (ID No. WSCD-2) in series with one multicyclone (ID No. MCCD-2). The permit will continue to require inspections and maintenance for the scrubber and multicyclone to assure compliance. Required inspections include at least one monthly external visual inspection of the system ductwork and material collection unit for leaks. Additionally, required annual inspections include: internal inspection of the multicyclone's structural integrity, the scrubber's spray and other internal components to detect clogging or corrosion damage, and inspection, cleaning, and calibration of all associated instrumentation. The pressure drop across the scrubber is required to be maintained at or above a minimum of 2.0 inches of water, and is required to be recorded, at a minimum, once daily. These requirements will continue after the permit is renewed. Compliance is expected.

15A NCAC 2D .0516 – Sulfur Dioxide from Combustion Sources

The water tube design wood-fired boiler (ID No. WBES-1) supplies steam to the manufacturing complex. This wood-fired boiler was previously permitted under separate ownership, specifically: Suez Energy BioPower, Inc. - North Cove, 2859 Old Linville Road, Marion. Baxter Healthcare (formerly ID No. 5600116) purchased the boiler and the ownership change permit was issued May 3, 2010. The two air permits were consolidated on October 28, 2011.

Emissions of sulfur dioxide from the water tube design wood-fired boiler (ID No. WBES-1) shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. Compliance is expected based on the low sulfur dioxide emissions associated with the combustion of wood. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the combustion of wood or a combination of wood and used oil in this boiler.

15A NCAC 02D .0521 “Control of Visible Emissions”

Wood-fired boiler (ID No. WBES-1), seven No. 2 fuel oil-fired peak shaver generators (ID Nos. EP-1 through EP-7), natural gas/No. 2 fuel oil-fired boilers (ID Nos. B-10 and B-11), No. 2 fuel oil-fired boiler (ID No. B-Temp-1), and diesel-fired emergency generator (ID No. EP-13) are subject to this regulation. ID Nos. B-10 and B-11 are only subject to this regulation while firing natural gas, when the NSPS Dc VE standard is not applicable. The intent of this Rule is to prevent, abate and control emissions generated from fuel burning operations and industrial processes where visible emissions can be reasonably expected to occur, except during startup, shutdowns, and malfunctions approved as such according to procedures approved under 15A NCAC 02D .0535.

For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. Compliance with the 20 percent opacity limit shall be determined as follows:

- i. No six-minute period exceeds 87 percent opacity;
- ii. No more than one six-minute period exceeds 20 percent opacity in any hour; and
- iii. No more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

Continued compliance is expected.

15A NCAC 02D .0614: Compliance Assurance Monitoring (CAM)

With the issuance of Permit No. 05600T17, the CAM condition was updated to include the standard DAQ language that detailed what items should be included in the report. No changes were needed to the CAM condition as part of this renewal.

When control devices are installed in series, current guidance only requires that CAM be applied to the unit directly emitting to the atmosphere. Therefore, the CAM requirements in this case are limited to the scrubber. To ensure proper performance, the facility currently monitors the water flow rate entering the scrubber and the pressure drop across the scrubber. Because the pressure drop across the scrubber monitoring is already required under 15A NCAC 2D .0504, the CAM indicator will be the water flow rate. Baxter will continue to be required to maintain the water flow above 250 gpm. Continued compliance is expected.

VI. NSPS and NESHAP

Toxics

No changes to the existing (15A NCAC 02Q .0711) toxics permit condition are required.

The wood-fired boiler continues to account for most of the facility-wide TAP emissions. As detailed in the June 29, 2009 memorandum from Air Quality Analysis Branch, the wood-fired boiler (ID No. WBES-1) was modeled by NCDAQ. The modeled emission rates assumed 8760 hours/yr, 24 hours/day operations. At this time, 32 separate TAPs were assessed and demonstrated compliance with the TAP acceptable ambient levels (AALs) in 15A NCAC 02D .1104.

15A NCAC 02D .0524 – NSPS Subpart Dc

Temporary boiler (ID No. B-Temp-1)

Baxter does not anticipate that this boiler will remain at the facility for more than 180 consecutive days to trigger applicability of NSPS Subpart Dc, but a requirement that the Permittee notify the DAQ Regional Supervisor within 15 days of start-up of an NSPS affected boiler was included in the permit. As detail in the permit, in the unexpected event that this boiler becomes subject to NSPS Dc, the requirements will mirror the requirements of Boilers B-10 and B-11 discussed in detail below.

Boilers B-10 and B-11:

US EPA promulgated “Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units” in 40 CFR 60 Subpart Dc. This NSPS applies to each steam-generating unit that commences construction, modification, or reconstruction after June 9, 1989, and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour or less), but greater than or equal to 2.9 MW (10 million Btu/hr). Boilers ID Nos. B-10 and B-11 each have a maximum heat input rate of 60.52 million Btu per hour, and according to the boiler plate, were manufactured after June 9, 1989. Thus, these boilers are deemed to be subject to the NSPS requirements in this Subpart.

The boilers do not fire on wood or coal; therefore, are not subject to the particulate matter standards under this rule. The boilers are subject to the sulfur dioxide and visible emission standards as discussed below.

Visible Emissions: Under NSPS Subpart Dc, a boiler with a maximum heat input capacity of greater than or equal to 30 million Btu per hour shall not have visible emissions more than 20 percent opacity when averaged over a six-minute period, except for one six-minute period per hour of not more than 27 percent opacity. No NSPS opacity limits apply to these boilers when firing natural gas. Oil-fired boilers subject to NSPS Subpart Dc are required to conduct Method 9 VE observations at least once every 12 calendar months, per 40 CFR 63.47c(a), following the initial compliance test. The visible emission monitoring schedule when firing on oil is determined by the actual visible emissions observed during previous testing, as shown in the table below:

Previous VE Observation	Timeframe of Next Required VE Method 9 Observation
0% Opacity	Within 12 months or 45 days of the next day oil is combusted, whichever is later.

0% < VE ≤ 5% Opacity	Within 6 months or 45 days of the next day oil is combusted, whichever is later.
5% < VE ≤ 10% Opacity	Within 3 months or 45 days of the next day oil is combusted, whichever is later.
10% < VE Opacity	Within 45 days

Sulfur Dioxide: The maximum sulfur content of any fuel oil received and fired in the boiler shall not exceed 0.5 percent by weight. To demonstrate compliance with this standard, the Permittee shall retain copies of each fuel supplier certification, including the sulfur content of the oil (in percent by weight). The Permittee is also required to submit a semiannual report summarizing the monitoring activities (January 30th and July 30th).

15A NCAC 02D .0524 – NSPS Subpart IIII
Diesel-fired emergency generator (ID No. EP-13)
 (Engine manufactured after April 1, 2006)

The Permittee shall comply with all applicable provisions, including the requirements for emission standards, notification, testing, reporting, record keeping, and monitoring, contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart IIII, including Subpart A "General Provisions."

Emission Standards

The Permittee shall comply with the emission standards 40 CFR 60.4202 for all pollutants, for the same model year and maximum engine power for this engine. [40 CFR 60.4205(b)]

Fuel Requirements

The Permittee shall use diesel fuel in the engine that meets the requirements of 40 CFR 80.510(b) including:

- i. a maximum sulfur content of 15 ppm; and
- ii. a minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

Monitoring

The engine has the following monitoring requirements:

- i. The engines shall be equipped with a non-resettable hour meter prior to startup. [40 CFR 60.4209(a)]
- ii. The engine, if equipped with a diesel particulate filter, must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached. [40 CFR 60.4209(b)]

Compliance

The Permittee shall:

- i. operate and maintain the engines and control devices according to the manufacturer's emission related-written instructions over the entire life of the engine;
- ii. change only those emission-related settings that are permitted by the manufacturer; and
- iii. meet the requirements of 40 CFR 89, 94 and/or 1068 as applicable.
[40 CFR 60.4206 and 60.4211(a)]

The Permittee shall comply with the emission standards by purchasing an engine certified to the emission standards for the same model year and maximum engine power. The engine shall be installed and configured according to the manufacturer's emission-related specifications. [40 CFR 60.4211(c)]

In order for the engine to be considered an emergency stationary ICE under this condition, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year is prohibited. [40 CFR 60.4211(f)]

Recordkeeping

To assure compliance, the Permittee shall perform inspections and maintenance on the engine as recommended by the manufacturer per 40 CFR 60.4206 and 40 CFR 60.4211(a). The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

- i. the date and time of each recorded action;
- ii. the results of each inspection;
- iii. the results of any maintenance performed on the engine;
- iv. any variance from manufacturer's recommendations, if any, and corrections made;
- v. the hours of operation of the engine in emergency and non-emergency service. [40 CFR 60.4214(b)]
- vi. if a PM filter is used, records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached [40 CFR 60.4214(c)]; and
- vii. documentation from the manufacturer that the engine is certified to meet the emission standards.

Reporting

No initial notification under §60.7 is required for the emergency use CI engines. [§60.4214(b)]

The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

15A NCAC 02D .1111- NESHAP (GACT JJJJJ) for Area Sources: Industrial, Commercial, and Institutional Boilers

Temporary boiler (ID No. B-Temp-1)

Baxter does not anticipate that this boiler will remain at the facility for more than 12 consecutive months to trigger applicability of GACT Subpart JJJJJ, so given the large number of possible requirements for this GACT, only a general paragraph was included in the permit.

Boilers B-10 and B-11:

This Subpart applies to new, reconstructed, or existing industrial, commercial, and institutional boilers located at an area source [§63.11194(a)(1)]. These affected sources are classified as new sources as construction of the affected sources commenced after June 4, 2010. [§63.11194(c)]

As requested by the Permittee, Air Permit No. 05600T16 included an avoidance condition so that boilers (ID Nos. B-10 and B-11) would not be subject to the requirements of Subpart JJJJJ. However, as part of Application No. 5600164.15A, the Permittee requested that this avoidance condition be removed and that these boilers be subject to NESHAP JJJJJ.

The conditions in the permit were updated to include the current template language as part of this renewal. Additionally, the conditions were modified to account for changes to the subpart regarding exemption from the PM limit by using low sulfur fuels. Specifically, as of September 14, 2019, an oil subcategory boiler that burns fuel oil other than the ULS fuel (distillate over 15 ppm sulfur) will be subjected to a PM standard, involving initial and subsequent source testing. According to the January 20, 2017 inspection report, "All fuel oil combusted at the facility is ultra-low-sulfur fuel at 15 ppm sulfur or less."

Compliance Dates

For a new or reconstructed boiler subject to a biennial tune-up, the first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed boiler. [§63.11223, §63.11196] If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. [§63.11223(b)(7)]

An Initial Notification must be submitted no later than January 20, 2014, or within 120 days after the source becomes subject to the standard. [§63.11225(a)(2)]

The Permittee shall submit a Notification of Compliance Status no later than July 19, 2014, or within 120 days of the source becomes subject to the standard. [§63.11225(a)(4)]

Performance Tune-up Requirements

The Permittee shall conduct an initial tune-up of the boiler and subsequent tune-ups biennially.

Per the January 20, 2017 ARO inspection report, Boiler B-10 began operations on June 23, 2015. Boiler B-11 began operation on June 24, 2015. Thus, subsequent tune-ups are due by July 2017.

Each biennial tune-up shall be conducted no more than 25 months after the previous tune-up.

The Permittee shall conduct the tune-ups while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

Tune-up shall meet the items requirements of §63.11223(b)(1)-(7).

Operating Limitations

Prior to September 14, 2019, to avoid being subject to the PM emission limit, the Permittee shall not combust oil that contains greater than 0.50 weight percent sulfur. [§63.11210(e)]

If oil with a fuel content greater than 15 parts per million (ppm) sulfur is combusted on or after September 14, 2019, the Permittee shall be subject to the PM emission limit. [§63.11210(e), (f)]

Except as described above, each boiler, except during periods of startup and shut down, shall not emit PM emissions at a rate greater than 3.0E-02 lb per million Btu of heat input. [§63.11201, Table 1 to Subpart JJJJJ]

Recordkeeping

The Permittee shall maintain on-site and submit if requested by the Administrator, a report containing the following information:

- i. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
- ii. A description of any corrective actions taken as a part of the tune-up of the boiler.
- iii. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler. Units sharing a fuel meter may estimate the fuel use by each unit. [§63.11223(b)(6)]

The Permittee shall maintain the following records:

(A) As required in §63.10(b)(2)(xiv), the Permittee shall keep a copy of each notification and report that was submitted to comply with this rule and all documentation supporting any Notification of Compliance Status that was submitted.

(B) The Permittee shall keep the following records:

- (1) Records that identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned; and
- (2) Records of monthly fuel use by each boiler, including the type(s) of fuel amount(s) used and sulfur content of fuels burned.

(C) Records of the occurrence and duration of each malfunction of the boiler or of the associated air pollution control and monitoring equipment.

(D) Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.

[§63.11222(a)(2), §63.11225(c)]

The records must be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years.

Reporting

In addition to the notification and reporting requirements of the EPA, the Permittee is required to report the following:

- i. Initial Notification (per §63.9(b) and §63.11225(a)(2)) is required within 120 days after the source becomes subject to the standard.
- ii. The Notification of Compliance Status in accordance with §63.9(h) is required no later than 120 days after the applicable compliance date specified in §63.11196 unless you must conduct a performance stack test. If you must conduct a performance stack test, you must submit the Notification of Compliance Status within 60 days of completing the performance stack test. In addition to the information required in §63.9(h)(2), your notification must include the certification(s) of compliance in §63.11225(a)(4), as applicable, and signed by a responsible official specified in §63.11196.
- iii. If the Permittee is using data from a previously conducted emission test to serve as documentation of conformance with the emission standards and operating limits of this subpart, the Permittee shall include in the Notification of Compliance Status the date of the test and a summary of the results, not a complete test report, relative to this subpart.

If the Permittee is not subject to the PM emission standard, the annual compliance certification reporting requirements of §63.11225(b) shall be met by complying with General Condition P of Section 3 of the air permit (annual compliance certification).

If the Permittee is subject to the PM emission standard, the Permittee shall submit a Notification of Intent to conduct a performance test to the DAQ at least 60 days before the performance stack test is scheduled to begin.

If the Permittee must conduct a performance stack test, the Permittee shall submit the Notification of Compliance Status within 60 days of completing the performance stack test.

Wood-fired boiler (ID No. WBES-1):

This Subpart applies to new, reconstructed, or existing industrial, commercial, and institutional boilers located at an area source [§63.11194(a)(1)]. This boiler is an existing source as construction or reconstruction of the affected source commenced on or before June 4, 2010. [§63.11194(b)]

The conditions in the permit were updated to include the current template language as part of this renewal.

Compliance Dates

An Initial Notification must be submitted no later than January 20, 2014 [§63.11225(a)(2)]

According to the January 20, 2017 ARO inspection report, the initial notification was completed September 13, 2011.

The Permittee shall submit a Notification of Compliance Status no later than July 19, 2014, or within 120 days of the source becomes subject to the standard. [§63.11225(a)(4)]

The Permittee shall complete a one-time energy assessment performed by a qualified assessor on or after January 1, 2008 and no later than March 21, 2014. [40 CFR §63.11196, 63.11214]

According to the January 20, 2017 ARO inspection report, the initial notification was completed February 4, 2014.

Performance Tune-up Requirements

The Permittee shall achieve compliance with the initial tune-up no later than March 21, 2014.

According to the January 20, 2017 ARO inspection report, this tune-up was performed on February 2, 2012.

After the first tune-up, biennial tune-ups must be conducted no later than 25 months after the previous tune-up. [§63.11223, §63.11196] If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup. [§63.11223(b)(7)]

According to the January 20, 2017 ARO inspection report, the most recent tune-up was completed March 3, 2016.

The Permittee shall conduct the tune-ups while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

Tune-up shall meet the items requirements of §63.11223(b)(1)-(7).

Recordkeeping

The Permittee shall maintain the following records:

- i. As required in §63.10(b)(2)(xiv), the Permittee shall keep a copy of each notification and report that was submitted to comply with this rule and all documentation supporting any Notification of Compliance Status that was submitted.
- ii. The Permittee shall keep the following records to document conformance with the performance tune-ups:
 - (A) Records that identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned,
 - (B) The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
 - (C) A description of any corrective actions taken as a part of the tune-up of the boiler.
 - (D) The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period.
- iii. The Permittee shall keep a copy of each boiler energy assessment report.
- iv. Records of the occurrence and duration of each malfunction of the boiler or of the associated air pollution control and monitoring equipment.
- v. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions, including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- vi. For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to 40 CFR 241.3(b)(1), the Permittee shall keep a record which documents how the secondary material meets each of the legitimacy criteria under 40 CFR 241.3(d)(1). If you combust a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(4), you must keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2 and each of the legitimacy criteria in 40 CFR 241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), you must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per 40 CFR 241.4, you must keep records documenting that the material is a listed non-waste under 40 CFR 241.4(a).

[§63.11222(a)(2), §63.11225(c)]

The records must be in a form suitable and readily available for expeditious review. The Permittee shall keep each record for 5 years following the date of each recorded action. The Permittee shall keep each record on-site or be accessible from

a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The Permittee may keep the records off site for the remaining 3 years.

Reporting

The annual compliance certification reporting requirements of §63.11225(b) shall be met by complying with Annual Compliance Certification requirements of General Condition P of the air permit.

15A NCAC 02D .1111- NESHAP Subpart ZZZZ “National Emission Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines (RICE)”

Diesel-fired emergency generator (ID No. EP-13)

This source shall meet the requirements of NESHAP Subpart ZZZZ by meeting the requirements of NSPS IIII

No. 2 fuel oil-fired peak shaver generators (ID Nos. EP-1 through EP-7)

These peak shaving generators are classified as existing (pre-June 12, 2006) RICE located at an area source of HAP emissions. The facility will be subject to the following requirements for existing non-emergency compression ignition RICE greater than 500 hp at an area source:

Fuel requirements [§63.6604]

Use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel as follows:

- i 15 ppm maximum sulfur content, and
- ii A minimum cetane index of 40; or a maximum aromatic content of 35 volume percent.

Emissions and Operating Limitations

- i. Limit concentration of CO in the exhaust ≤ 23 ppmvd at 15% O₂ **OR** Reduce CO emissions by 70% or more. [Table 2b, Subpart ZZZZ]
- ii. Except during periods of start-up, maintain catalyst so that the Δp across the catalyst does not change by more than 2 inches of water at 100% load $\pm 10\%$ from the Δp across the catalyst that was measured during the most recent performance test; **AND** Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is ≥ 450 °F and ≤ 1350 °F. [Table 2b, Subpart ZZZZ]
- iii. Minimize the engine's time spent at idle and the startup time to amount needed for appropriate and safe loading of the engine, to less than or equal to 30 minutes. [Table 2d, Subpart ZZZZ]
- iv. *(If not equipped with a closed crankcase ventilation system)* Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere **or** Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals. [40 CFR 63.6625(g)]

Testing Requirements

After the initial performance test, the Permittee shall conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first. [40 CFR 63.6615, Table 3]

Monitoring/Reporting Requirements

- i. The Permittee shall install, operate, and maintain continuous parameter monitoring systems (CPMS) to monitor the catalyst inlet temperature for each catalyst and reduce the temperature data to 4- hour rolling averages. The Permittee shall maintain the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature. [40 CFR 63 Subpart ZZZZ Table 5, 63.6625(b), 63.6640(a), Table 6]
- ii. The Permittee shall measure the pressure drop across the catalyst once per month and demonstrate that the pressure drop across the catalyst is within the operating limitation established during the performance test. [40 CFR 63 Subpart ZZZZ Table 5, 63.6640(a), Table 6]
- iii. The Permittee shall install, operate, and maintain each CPMS according to 40 CFR 63.6625(b)
- iv. The Permittee keep records of catalyst(s) inlet temperature and pressure drop data as required by 40 CFR

63.6655(d).

- v. The Permittee shall submit a semiannual compliance report identifying all deviations from emission or operating limitations and all malfunctions during the reporting period, or a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. [§63.6650]

VII. Increment Tracking and Avoidance Conditions

Increment Tracking

McDowell County has not been triggered for any pollutants, so no PSD increment tracking is required.

15A NCAC 02Q .0317 - Avoidance Conditions

PSD

To avoid applicability of 15A NCAC 02D .0530(g) for major sources, the facility's permit includes an avoidance condition that limits facility-wide emissions to less than 250 tons each of particulate matter, sulfur dioxide, nitrogen oxide and carbon monoxide per consecutive 12-month period. The facility will continue to operate under this condition, so there will be no change to this condition as a result of this modification.

Pollutant	2015 Facility-wide Actual Emissions (tpy)	Facility-wide limit (tpy)
PM	53.10	< 250
SO ₂	11.86	< 250
NO _x	119.86	< 250
CO	186.77	< 250

MACT

In order to avoid classification as a major source for MACT applicability, the facility-wide emission sources shall discharge into the atmosphere less than 10 tons of any single hazardous air pollutant (HAP) per consecutive 12-month period and less than 25 tons of any combination of HAPs per consecutive 12-month period. The facility will continue to operate under this condition, so there will be no change to this condition as a result of this modification. The avoidance condition requires that "HAP emissions from the wood-fired boiler (**ID No. WBES-1**) shall be controlled by one multicyclone (**ID No. MCCD-2**) followed by one venturi scrubber (**ID No. WSCD-2**)."

Section 112(r)

To avoid the applicability of 40 CFR Part 68 "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Section 112(r)," the Permittee shall:

- not use, store or handle, within any process, more than 20,000 pounds of aqueous ammonia at concentrations greater than 20%; and,
- not use, store or handle, within any process, more than 2,500 pounds (193 gallons) of chlorine.

The facility will continue to operate under this condition, so there will be no change to this condition as a result of this modification.

VIII. N. C. Toxics

Toxics

The wood-fired boiler continues to account for most of the facility-wide TAP emissions. As detailed in the June 29, 2009 memorandum from Air Quality Analysis Branch, the wood-fired boiler (ID No. WBES-1) was modeled by NCDAQ. The modeled emission rates assumed 8760 hours/yr, 24 hours/day operations. At this time, 32 separate TAPs were assessed and demonstrated compliance with the TAP acceptable ambient levels (AALs) in 15A NCAC 02D .1104.

No changes to the existing toxics permit conditions (15A NCAC 02Q .0711 and 15A NCAC 02D .1100) are required.

IX. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Virginia is an affected state/local program within 50 miles of the facility.